

CLAIMS:

1. An OFDM transmitter (20), comprising:
a diversity encoding stage (30) including means for splitting a data input signal into a first OFDM subcarrier stream (S0) and a second OFDM subcarrier stream (S1), said diversity encoding stage (30) further operable to implement a cross subcarrier transmitter diversity encoding of the first OFDM subcarrier stream (S0) and the second OFDM subcarrier stream (S1) to thereby generate a first encoded OFDM subcarrier stream (ES0) and a second encoded OFDM subcarrier stream (ES1); and
an OFDM symbol stage (40) including means for transforming the first encoded OFDM subcarrier stream (ES0) into a first modulated transmitter signal (s_0), said OFDM symbol stage (40) operable to transform the second encoded OFDM subcarrier stream (ES1) into a second modulated transmitter signal (s_1).
2. The OFDM system of claim 1, wherein said first OFDM subcarrier stream (S0) includes odd symbols of the data input signal.
3. The OFDM transmitter (20) of claim 1, wherein said second OFDM subcarrier stream (S1) includes even symbols of the data input signal.
4. The OFDM transmitter (20) of claim 1, wherein said first encoded OFDM subcarrier stream (ES0) includes multiple symbol pairings, each symbol pairing having a complex conjugate symbol of said first OFDM subcarrier stream (S0) and a negative complex conjugate symbol of said second OFDM subcarrier stream (S1) over adjacent frequency bins.
5. The OFDM transmitter (20) of claim 1, wherein said second encoded OFDM subcarrier stream (ES1) includes multiple symbol pairings, each symbol pairing having a symbol of said second OFDM subcarrier stream (S0) and a symbol of said second OFDM subcarrier stream (S1) over adjacent frequency bins.
6. A method (80) of operating an OFDM transmitter (20), said method (80) comprising:

(S82) splitting a data input signal into a first OFDM subcarrier stream (S0) and a second OFDM subcarrier stream (S1); and

(S84) implementing a cross subcarrier transmitter diversity encoding of the first OFDM subcarrier stream (S0) and the second OFDM subcarrier stream (S1) to thereby generate a first encoded OFDM subcarrier stream (ES0) and a second encoded OFDM subcarrier stream (ES1).

7. The method (80) of claim 6, further comprising:

(S86) transforming the first encoded OFDM subcarrier stream (ES0) into a first modulated transmitter signal (s_0); and

(S86) transforming the second encoded OFDM subcarrier stream (ES1) into a second modulated transmitter signal (s_1).